AHS

STATEMENT BY E. CAMARENA, DIRECTOR OF ENFORCEMENT
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
REGARDING VINYL CHLORIDE IN THE VICINITY OF THE BKK LANDFILL
July 1, 1982

Vinyl chloride (VC) is a colorless, odorless gas associated with the manufacture of products such as floor tile, pipe, electric insulation, phonograph records and seat coverings. It is a known carcinogen and one of the most hazardous substances used in the petrochemical industry.

In 1971, OSHA set a workplace standard for VC at 500 ppm. The following year this was lowered to 50 ppm, and in 1974 the OSHA standard was further reduced to 1 ppm. In October 1976, EPA set a VC emission standard at 10 ppm. EPA has also considered setting an ambient standard, but has delayed lacking data to support a specific threshhold concentration which health effects could occur.

After a long, somewhat controversial hearing, the California Air Resources Board established an ambient standard for California of 0.01 ppm for a 24 hour period. This standard, which is 100 times more stringent than the OSHA workplace standard, is the only ambient VC standard in the U.S.

The only significant VC sources in California are in the South Coast Air Basin; thus ours is the first area in the United States to embark on a vinyl chloride program specifically designed to achieve an ambient standard.

There are three polyvinyl chloride manufacturing facilities in the SCAB; Keysor-Century in Saugus, the B.F. Goodrich plant

in Carson, and the Union Carbide latex plant in Torrance. All three plants operate continuously. A fourth plant, the Stauffer plant in Carson, permanently shut down its operation on May 25 of this year.

In addition to the three manufacturing facilities, vinyl chloride emissions can originate from the BKK landfill, where VC waste materials were deposited in the past. Odor complaints received from residents in the vicinity of the landfill prompted the District through an interagency task force to require a gas collection and incineration system at BKK. In the process of testing the efficiency of the system, our chemists detected the presence of VC.

Upon confirming the data, we immediately issued a news release on June 19, 1981 wherein the vinyl chloride levels and the mitigation actions being taken were detailed. Newspaper articles carrying this information appeared in the local press on June 26, 1981 and again August 16, 1981.

Since the start of the vinyl chloride monitoring program the South Coast Air Quality Management District has regularly sent monitoring data update reports to the City of West Covina, State Dept. of Health Services, L.A. County, Dept. of Health Services, BKK and other concerned agencies.

Five air monitoring stations around BKK were established after a careful analysis of wind patterns, odor complaints (vinyl chloride has no odor but odorous and nonodorous gases

follow same pattern) and other information. Stations showing no vinyl chloride or very low levels were gradually eliminated while the two stations consistently showing the highest levels were selected for continuous monitoring. These sites are those closest to the landfill on the south side. Thus, the data we have reported represents the worst case situation immediately adjacent to the fill. Further away, the levels are lower.

Figure 1 shows a substantial downtrend in the peak readings each month. Figure 2 shows a downtrend in the number of days the air quality standard was exceeded and in the number of samples exceeding the standard. We are very pleased with the substantial reduction in levels of vinyl chloride. We recognize, however, that there remain a few days each month when the standard is exceeded in the area immediately adjacent to the landfill. This means additional measures are needed to achieve the standard in those areas closest to the landfill.

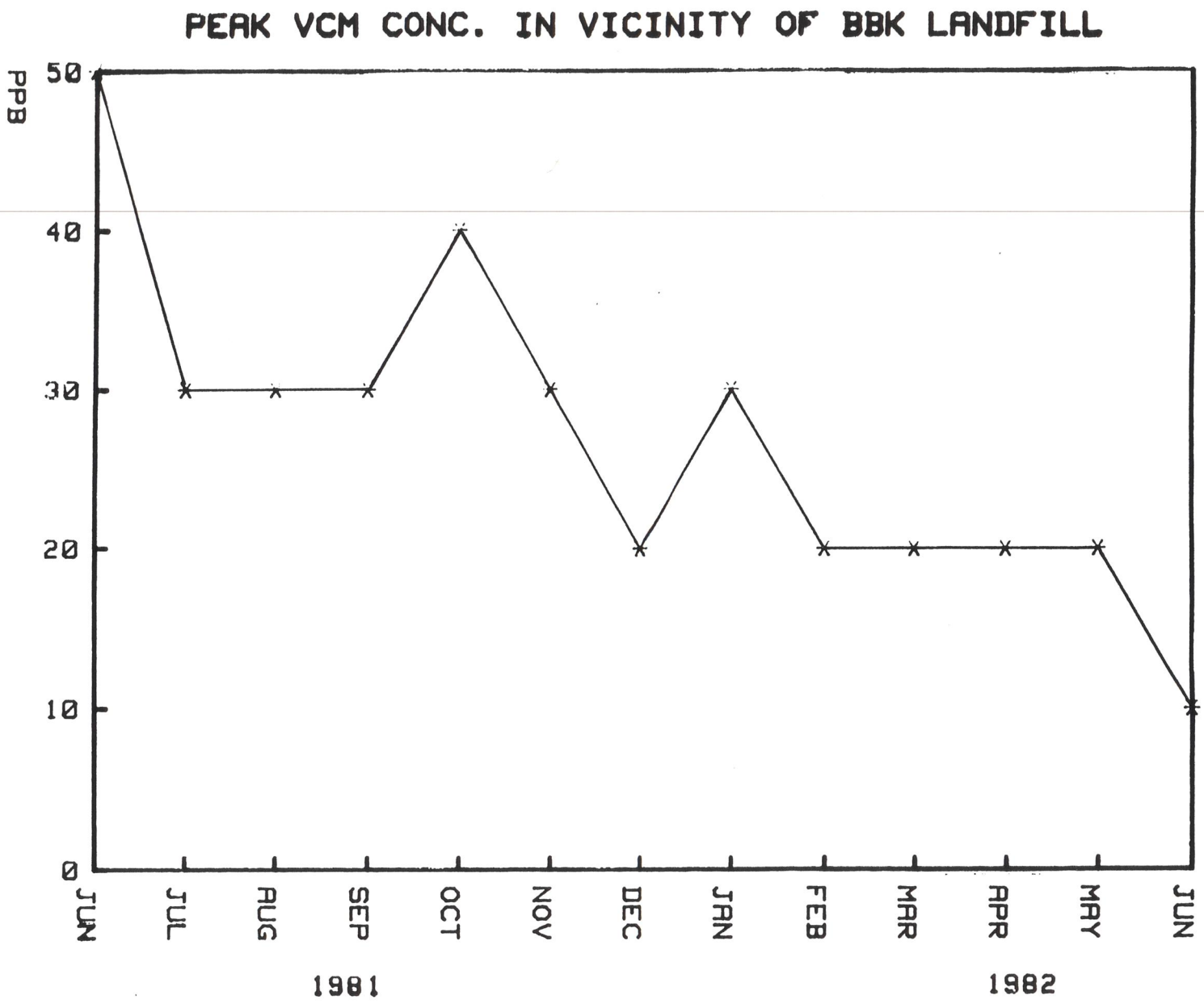

PEAK VCM CONC. IN VICINITY OF BBK LANDFILL
PPB
50
40
30
20
10
0
JUN
JUL
AUG
SEP
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
1981
1982

Figure 1

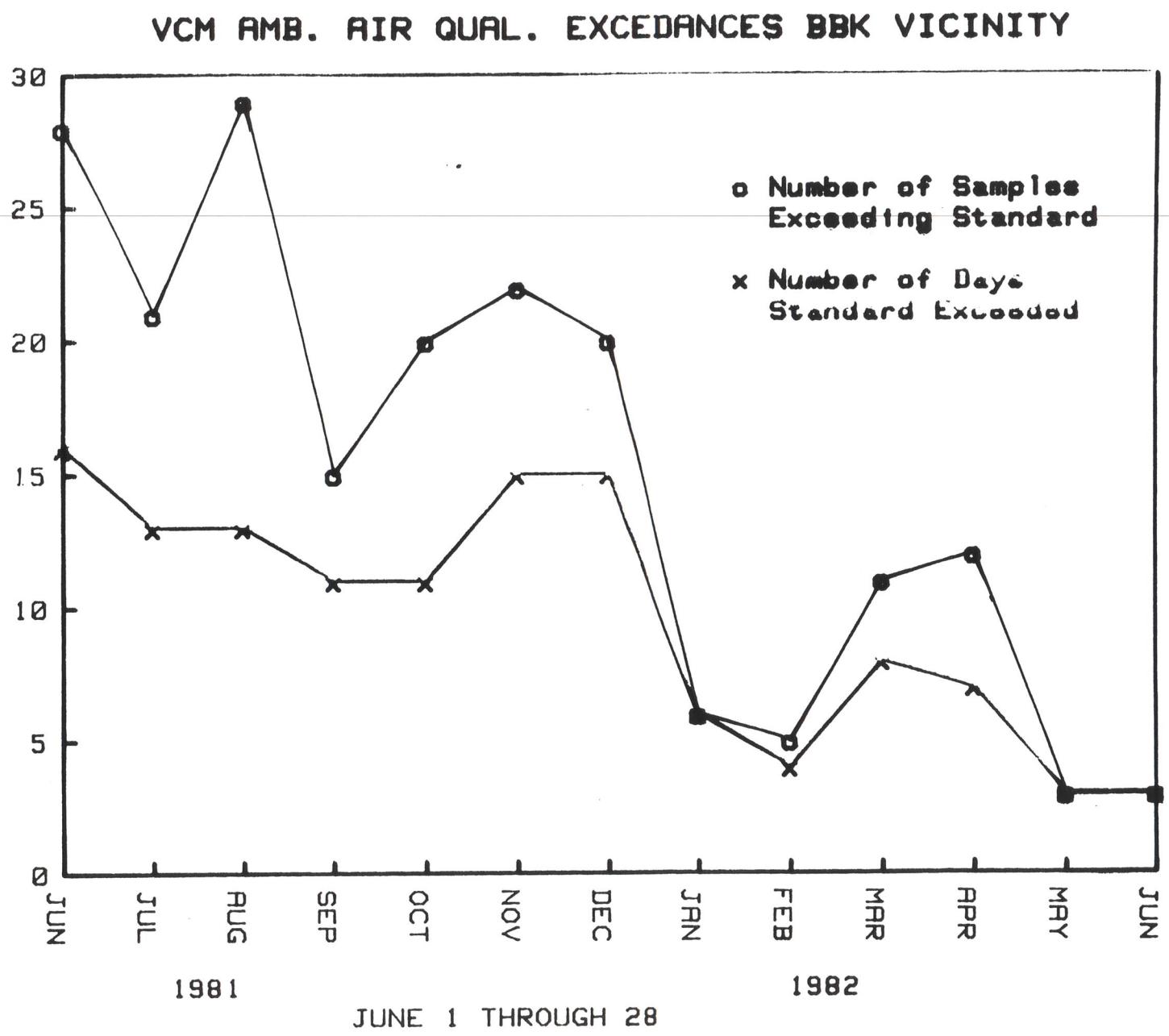

VCM AMB. AIR QUAL. EXCEDANCES BBK VICINITY
30
25
20
15
10
5
0
o Number of Samples Exceeding Standard
x Number of Days Standard Exceeded
JUN
JUL
AUG
SEP
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
1981
1982
JUNE 1 THROUGH 28

Figure 2

EXPANDED MONITORING OF EMISSIONS AT BKK

In the past several years, thousands of air samples from the BKK area have been taken and analyzed by a number of entities including the South Coast Air Quality Management District (SCAQMD), the California Air Resources Board, the University of Southern California and Eutek (a private consulting firm). These tests have shown the presence of a variety of organic compounds.

Monitoring conducted by the SCAQMD has shown a substantial reduction in the vinyl chloride levels in the vicinity of the BKK landfill as a result of mitigation measures implemented by BKK. The interagency task force formed in May of 1981 (members include City of West Covina, SCAQMD, State Dept. of Health Services, L.A. County Dept. of Health Services, State Solid Waste Management Board, Regional Water Quality Control Board and BKK) now will undertake an expanded monitoring effort. The purpose is to:

1. Assess the impact of mitigation measures implemented by BKK on other organic emissions from the landfill, and

2. Provide data base to determine the need for further emission reductions.

Currently, there are two stations monitoring for vinyl chloride. This will be expanded to six stations. Tentative sites for the six stations include:

1. Azusa Ave. (near BKK entrance),

2. Suburban Water District, Well #164 (north of BKK),

3. Residence #3 (Mary Ct., existing station),

4. Residence #4 (Lynn St., existing station),

5. BKK (on ridge), and

6. Pico Rivera, station will be used as a control for comparative purposes.

Samples will be collected at each station 24 hours a day, five days a week, Sunday through Thursday. The Sunday data will permit a comparison between emissions when there is no activity at BKK to normal weekday activity emissions.

Each sample will be analyzed for vinyl chloride and several other compounds. Tentatively these compounds are:

1. 1,1-dichlorethene, used in production of plastic films such as saran.

2. 1,2-dichloroethene (EDC), solvent for fats, preservative.

3. Tetrachloroethylene (perk), dry cleaning solvent.

4. Chloroethene (vinyl chloride), used to make poly vinyl chloride plastics.

5. Benzene (component of gasoline).

6. Trichloromethane (chloroform), common industrial solvent.

7. Dichloromethane, common solvent, was used as propellant for aerosol cans.

The testing described above is expected to continue for at least three months after which a report including all data and analysis of the health impacts (if any) will be released by the joint agencies task force.

DISSEMINATION OF VINYL CHLORIDE DATA

BY SCAQMD

I. News Release, dated June 19, 1981, issued by SCAQMD, details vinyl chloride concentrations and remedial actions.

II. Newspaper Articles in June 26, 1981, and August 19, 1981, details vinyl chloride concentrations and remedial actions

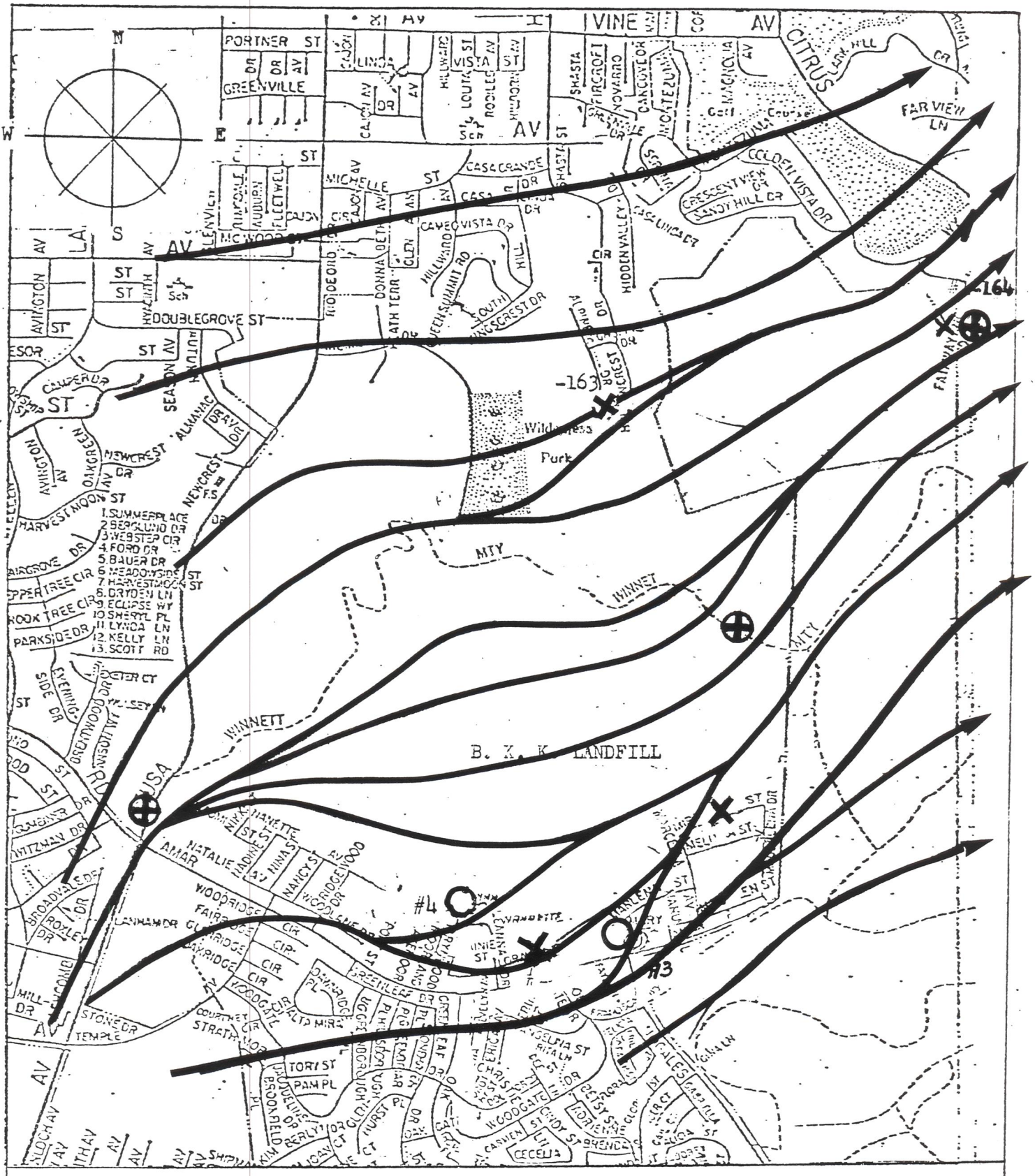
III. SCAQMD regularly sent data to:

City of West Covina,
State Department of Health Services,
L.A. County, Dept. of Health Services,
Regional Water Quality Control Board,
Solid Waste Management Board, and
BKK.

Dates of transmittal were as follows:

Transmittal Date	Data for Time Period
June 23, 1981	5/27/81 to 6/21/81
July 1, 1981	6/22/81 to 6/27/81
July 14, 1981	6/28/81 to 7/12/81
July 28, 1981	7/13/81 to 7/16/81
August 3, 1981	7/27/81 to 7/31/81
August 18, 1981	8/1/81 to 8/14/81
August 25, 1981	8/15/81 to 8/21/81
September 11, 1981	8/22/81 to 8/28/81
September 15, 1981	8/29/81 to 9/11/81
September 25, 1981	9/5/81 to 9/18/81
October 6, 1981	9/19/81 to 10/2/81
October 22, 1981	10/3/81 to 10/16/81
November 4, 1981	10/17/81 to 10/30/81
December 8, 1981	10/31/81 to 11/27/81
January 11, 1982	11/28/81 to 12/30/81
April 26, 1982	12/31/81 to 4/20/82
May 11, 1982	4/21/82 to 5/10/82
May 27, 1982	5/11/82 to 5/26/82
June 10, 1982	5/27/82 to 6/7/82

IV. Report, Vinyl Chloride in the South Coast Air Basin, issued May, 1982.



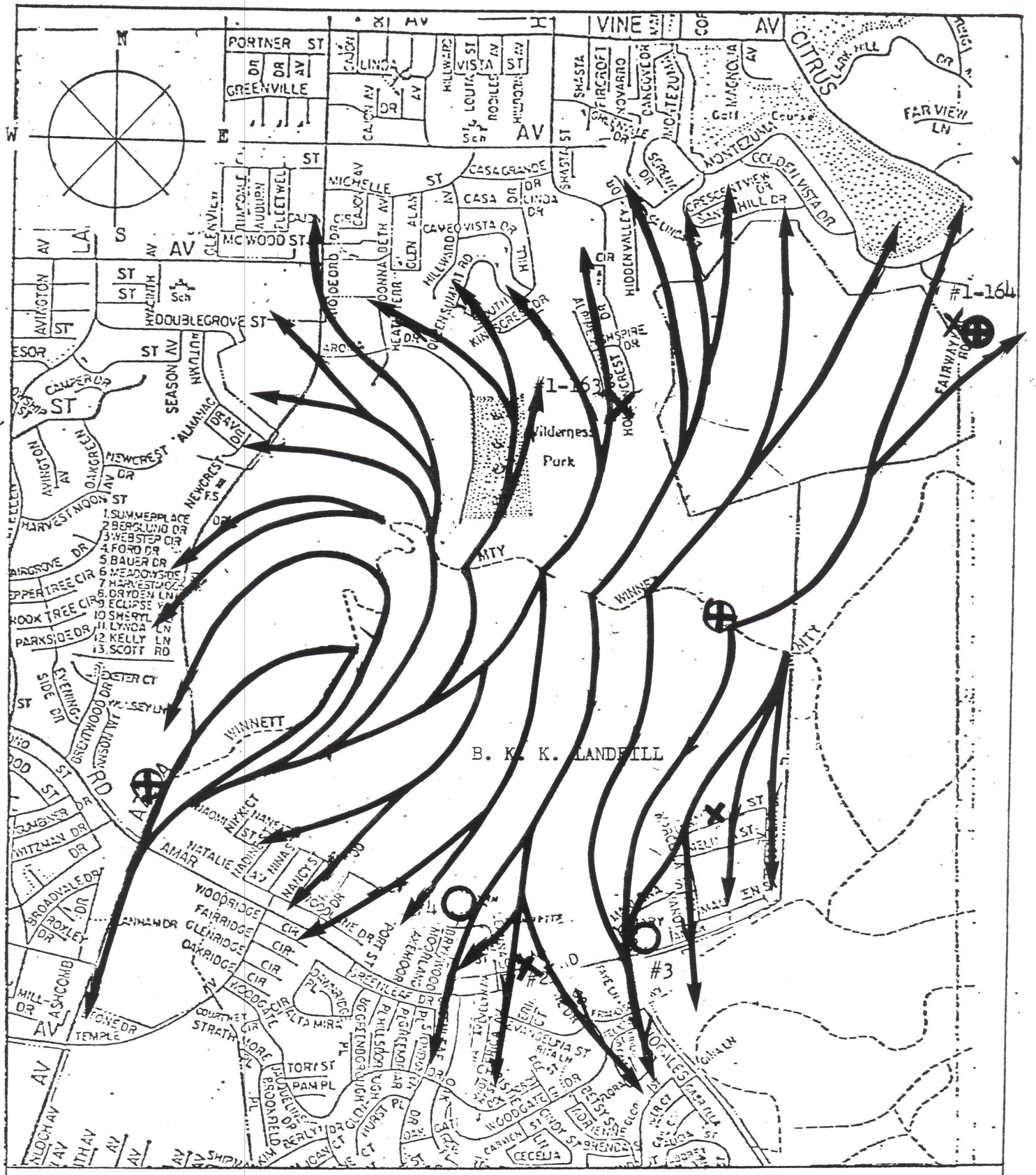
WIND FLOW PATTERNS

DAY TIME SEA BREEZE

○ EXISTING SITES

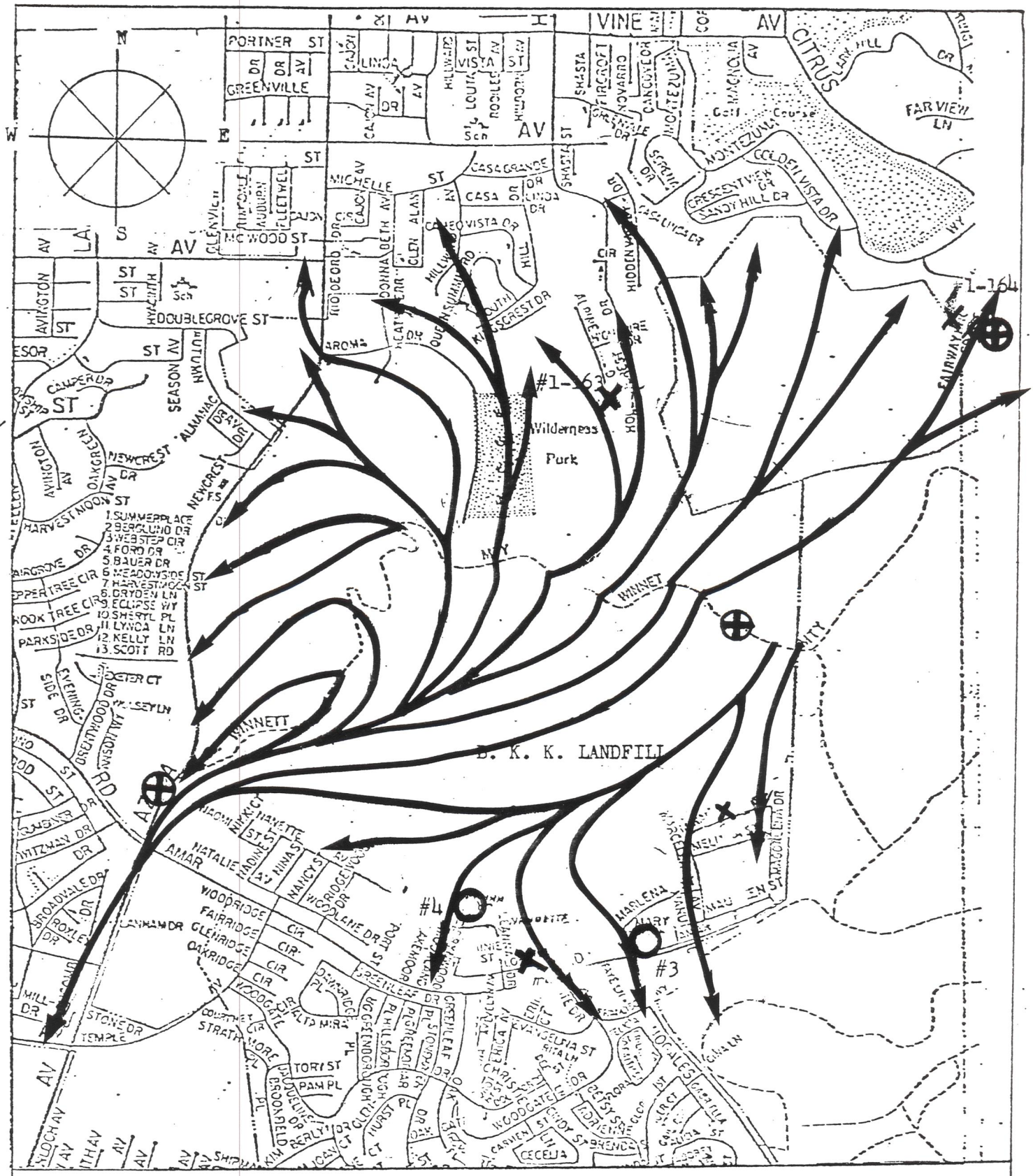
⊕ PROPOSED SITES

X FORMER SITES



WIND FLOW PATTERNS
NIGHT TIME DRAINAGE
WITHOUT BERM

○ EXISTING SITES
⊕ PROPOSED SITES
✕ FORMER SITES



WIND FLOW PATTERNS
NIGHT TIME DRAINAGE
WITH BERM

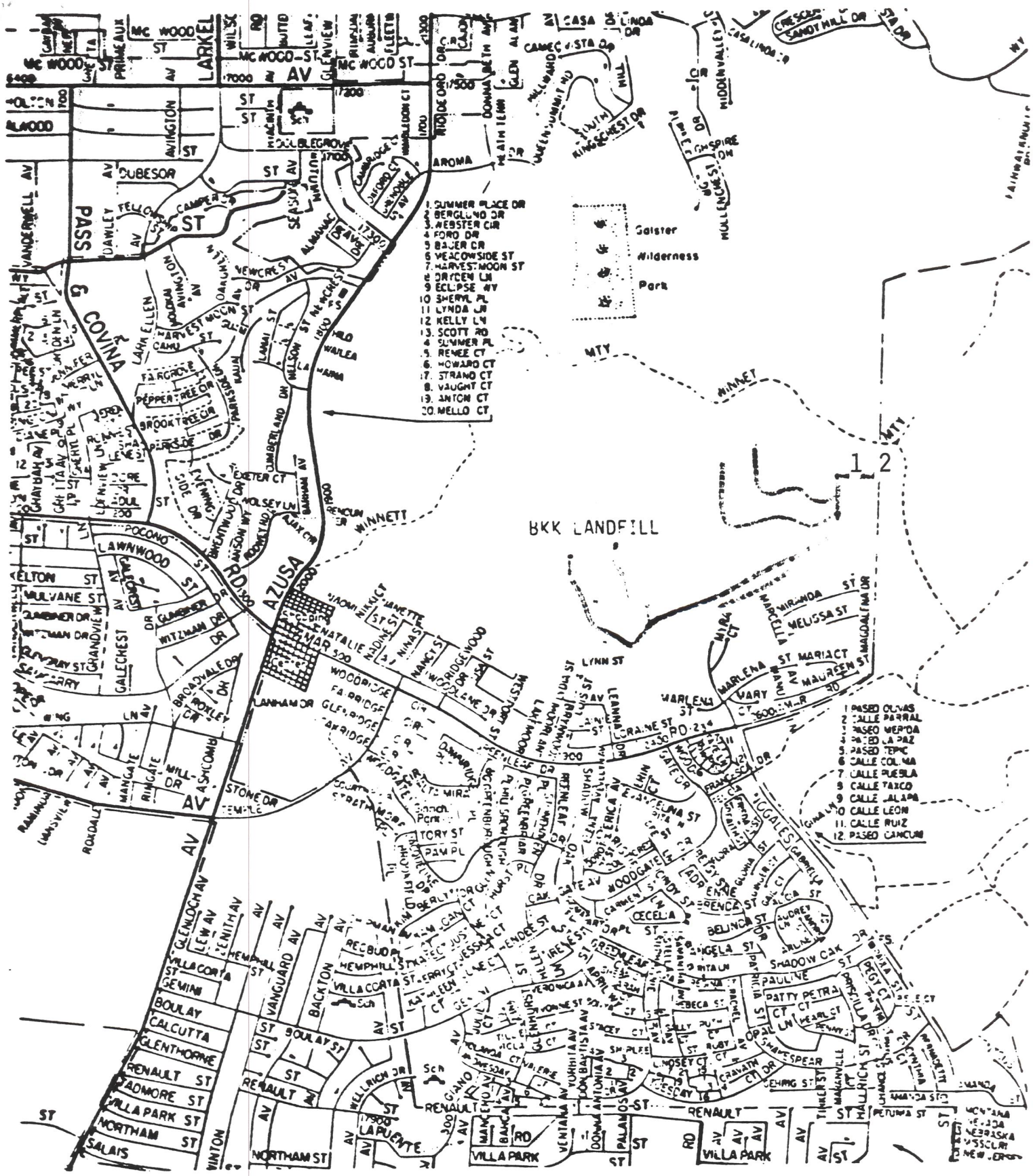
○ EXISTING SITES

⊕ PROPOSED SITES

× FORMER SITES

BKK GAS COLLECTION SYSTEM

- NETWORK OF LARGE PERFORATED PLASTIC PIPES, OR WELLS
- PIPES EXTEND 50 TO 150 FEET INTO GROUND
- BLOWER COLLECTS GASES FROM WELLS
- GASES ARE SENT TO FOUR SMOKE LESS FLARES
- SYSTEM HAS BEEN EXPANDED:
  - 25 WELLS IN SUMMER 1981
  - 55 WELLS AT PRESENT
  - 75 WELLS BY END OF JUNE 1982


BKK LANDFILL
1 2
GAS COLLECTION SYSTEM
1 BLOWER
2 FOUR SMOKELESS FLARES